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COCHRAN FREUND & YOUNG LLC
2026 CARIBOU DR
SUITE 201
FORT COLLINS, CO 80525

EXAMINER	
TENTONI, LEO B	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BENJAMIN R. MATTES, PHILLIP N. ADAMS, DALI YANG, LORI A. BROWN, ANDREI G. FADEEV, and IAN D. NORRIS

Appeal 2009-003056
Application 10/672,323
Technology Center 1700

Decided:[1] June 25, 2009

Before TERRY J. OWENS, PETER F. KRATZ, and MARK NAGUMO, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 7-23, 35, 36 and 38. Claims 1-6, 24-34, 37, and 39-61, which are all of the other pending claims, stand withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

The Invention

The Appellants claim a method for spinning polyaniline fiber. Claim 7 is illustrative:

> 7. A method for spinning polyaniline fiber, comprising the steps of:
>
> (a) adding between 6 and 14 mass% of a mixture of 2-acrylamido-2-methyl-1-propanesulfonic acid (AMPSA) and polyaniline containing between 2 and 12 mass% of water to dichloroacetic acid (DCAA), such that there are between 30 and 100 molecules of AMPSA per 100 aniline repeat units of the polyaniline, forming thereby a composition, wherein during said step of addition the temperature of the composition does not rise above about 35 °C;
>
> (b) continuously extruding the composition through a spinneret into a coagulant, thereby forming a polyaniline fiber.

The Reference

Adams	WO 99/24991	May 20, 1999

The Rejection

Claims 7-23, 35, 36 and 38 stand rejected under 35 U.S.C. § 103 over Adams.[2]

OPINION

We reverse the Examiner's rejection.

Issue

Have the Appellants shown reversible error in the Examiner's determination that Adams would have rendered prima facie obvious, to one of ordinary skill in the art, a method for spinning polyaniline fiber comprising including 2-12 mass% water in a mixture of polyaniline and 2-acrylamido-2-methyl-1-propanesulfonic acid (AMPSA) added to dichloroacetic acid (DCAA), such that the temperature of the composition during the addition does not rise above about 35°C?[3]

Findings of Fact

Adams discloses a polyaniline fiber wet-spinning process comprising wet-spinning a mixture of polyaniline, an aliphatic sulfonic acid which most preferably is AMPSA, and an acid solvent which most preferably is DCAA, and removing the acid solvent with a competitive solvent which can be water (abstract; p. 1, ll. 11-13; p. 2, ll. 25-27; p. 3, ll. 6-7, 22-23; p. 4, ll. 10-24).

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[2] Rejections of claims 7-23, 35, 36 and 38 under 35 U.S.C. § 102(b) over Adams and under 35 U.S.C. § 103 over Stephen J. Pomfret et al., "Inherently Electrically Conductive Fibers Wet Spun from a Sulfonic Acid-Doped Polyaniline Solution," 10 *Adv. Mater.* 1351-53 (1998), are withdrawn in the Examiner's Answer (Ans. 3).

[3] The Appellants disclose that the temperature is kept below about 35°C by using a cooling bath and adding the solids sufficiently slowly (Spec. 11:18-21).

Analysis

The Appellants argue that Adams' water is a competitive solvent for precipitating the polymer, and that there is no teaching or implication in Adams that water can be mixed with any of polyaniline, AMPSA or DCAA (Br. 14; Reply Br. 2).

The Examiner argues that Adams "teaches that the polyaniline/AMPSA/DCAA mixture may contain additional solvents or diluents, including water" (Ans. 8).

Adams does not disclose that the solvents/diluents which can be used in addition to the acid solvent include water (p. 4, ll. 2-9). Water is listed only among the competitive solvents used to remove the acid solvent from the mixture (p. 4, ll. 10-24).

Thus, the Examiner has not established that Adams discloses, or would have rendered prima facie obvious, to one of ordinary skill in the art, adding a water-containing polyaniline/AMPSA mixture to DCAA.

The Examiner argues that polyaniline generally is synthesized at about -25°C, and that Adams' disclosure in Example 3 that a pot containing the mixture is brought to and held at 50 ± 5°C means that the pot temperature was below 45°C, which includes temperatures below 35°C down to the polyaniline synthesis temperature, and then was heated (Ans. 5).

The Appellants challenge the Examiner's argument that the polyaniline synthesis temperature is determinative of the temperature reached when polyaniline powder with AMPSA is mixed with DCAA, and the Appellants point out that Adams states in Example 1 (p. 5, ll. 29-30) that "[t]he homogenisation/protonation is appreciable exothermic" (Reply Br. 3). The Appellants argue that Adams' disclosure in Example 3 that "[a]n

electric heating tape was wrapped round the pot to enable it to be brought to and held at a temperature of 50 ± 5°C" (p. 7, ll. 14-16) means that the subsequent spinning process is conducted with the pot between 45°C and 55°C, but does not teach or imply that the mixture was below 35°C at any time during the mixing or spinning process (Reply Br. 3).

The Examiner has not explained why, even if the synthesis temperature of polyaniline is -25°C, one of ordinary skill in the art would have considered Adams' disclosure in Example 3 that polyaniline was ground with AMPSA (p. 7, l. 3) to mean that the polyaniline was still at its synthesis temperature. Thus, the Examiner has not provided support for the Examiner's argument that one of ordinary skill in the art would have considered Adams' disclosure that the pot was brought to 50 ± 5°C (p. 7, ll. 14-16) to mean that the temperatures at which the pot could have been before being brought to that temperature include temperatures below 35°C down to the synthesis temperature of polyaniline (Ans. 5).

The Examiner argues that there is no apparent significant temperature rise of Adams' mixture because the pot was at a temperature below 45°C before being brought to 50 ± 5°C (p. 7, ll. 14-16) and that, therefore, "even if the homogenization/protonation is appreciably exothermic, the mixture must still be heated in order to raise its temperature to at least 45°C" (Ans. 7-8).

The Examiner, however, has not provided evidence or technical reasoning as to why, even if the temperature was below 45°C, it was at or below about 35°C.

Conclusion of Law

The Appellants have shown reversible error in the Examiner's determination that Adams would have rendered prima facie obvious, to one

of ordinary skill in the art, a method for spinning polyaniline fiber comprising including 2-12 mass% water in a mixture of polyaniline and 2-acrylamido-2-methyl-1-propanesulfonic acid (AMPSA) added to dichloroacetic acid (DCAA), such that the temperature of the composition during the addition does not rise above about 35°C.

DECISION/ORDER

The rejection of claims 7-23, 35, 36 and 38 under 35 U.S.C. § 103 over Adams is reversed.

It is ordered that the Examiner's decision is reversed.

REVERSED

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